Milestone Farm

Greethill

Athenry

Co Galway

H65Y966

An Coimisiun Pleanala

68 Marlborough street

Rotunda

Dublin 1

RE: Planning Reference Number 324113

Project Name : Cashla Peaker Power Plant Athenry

Date: 23 /04/2026

Dear Sir / Madam,

I am writing to you as a concerned dairy & beef farmer living in the beautiful green fields of Athenry and believe the proposed Cashla Gas and Diesel Power Plant should not be built as it would have very negative effects of PM2.5, NOx and Combustion Emissions on the livestock in our locality.

Dairy Cattle — Milk Quality and Production

- PM2.5 is positively associated with increased somatic cell count (SCC) and negatively associated with milk production in dairy cows ScienceDirect — a 105,500 cells/mL increase in SCC per unit increase in PM2.5 was recorded, a direct marker of udder inflammation and mastitis risk
- Fine particulate matter can be respired deep into the alveolar recesses of the lungs, where it can induce inflammation and be absorbed across the pulmonary endothelium to enter systemic circulation Journal of Dairy Science — the same systemic inflammatory pathway that suppresses milk output
- Resting dairy cattle inhale approximately 9 litres of air per minute, meaning during peak pollution events (PM10 = 138 $\mu g/m^3$, PM2.5 = 119 $\mu g/m^3$), cows introduced approximately 2,235 µg of PM10 into the respiratory system within an hour, including 1,928 µg of PM2.5. High metabolic requirements make dairy

cows particularly vulnerable to the adverse effects of excessive particulate pollution Nature

- Elevated ambient PM2.5 and PM10 concentrations translate directly into elevated particulate levels inside dairy cattle barns through natural ventilation, with measurable increases in heavy metal content in milk from exposed cows Nature — lead and cadmium levels in milk correlated with outdoor air pollution levels
- Wildfire-derived PM2.5 exposure altered protein and fat metabolism, reduced immune cell populations in blood, and disrupted blood mineral balance in lactating cows (Anderson et al., 2022 — Journal of Dairy Science

Reference [1]: Beaupied et al. (2022). Cows as Canaries: The Effects of Ambient Air Pollution Exposure on Milk Production and Somatic Cell Count in Dairy Cows. Environmental Research, 204(B). PMID: 34699758
https://www.sciencedirect.com/science/article/abs/pii/S0013935121014985
Reference [2]: Nieckarz et al. (2023). The Concentration of Particulate Matter in the Barn Air and Its Influence on the Content of Heavy Metals in Milk. Scientific Reports, 13:10626. PMID: 37391588
https://www.nature.com/articles/s41598-023-37567-2
Reference [3]: Anderson et al. (2022). Effects of Wildfire Smoke Exposure on Innate Immunity, Metabolism, and Milk Production in Lactating Dairy Cows. Journal of Dairy Science, 105(8). PMID: 35717334
https://www.journalofdairyscience.org/article/S0022-0302(22)00345-9/fulltext

Dairy and Beef Cattle — Mortality and General Health

- A 10 µg/m^3 increase in same-day NO_2 was associated with a 9.2% increase in dairy cattle mortality. PM10 effects cumulated over 26 days — meaning harm from a single emission event persists in the herd for weeks PubMed Central
- Cattle are known to be susceptible to respiratory disease because of their small physiological gaseous exchange capacity PubMed Central — making them disproportionately affected compared to other species
- Nitrogen dioxide exposure in cattle results in respiratory distress and necropsy findings of atypical interstitial pneumonia MSD Veterinary Manual
- Experimental NO_2 inhalation in cattle caused methemoglobinaemia, severe dyspnea, pulmonary oedema, haemorrhage, obliterative bronchiolitis and death (Cutlip, 1966 — Veterinary Pathology)

Reference [4]: Cox et al. (2016). Ambient Air Pollution-Related Mortality in Dairy Cattle: Does It Corroborate Human Findings? Epidemiology, 27(3). PMC5400059
https://pmc.ncbi.nlm.nih.gov/articles/PMC5400059/
Reference [5]: Cutlip R.C. (1966). Experimental Nitrogen Dioxide Poisoning in Cattle. Veterinary Pathology, 3(5).
https://journals.sagepub.com/doi/abs/10.1177/030098586600300506
Reference [6]: MSD Veterinary Manual. Respiratory Disease in Cattle due to Exposure to Toxic Gases.
https://www.msdvetmanual.com/respiratory-system/non-infectious-respiratory-system-diseases-in-cattle/respiratory-disease-in-cattle-due-to-exposure-to-toxic-gases

Beef Cattle — Weight Gain and Carcass Performance

- Significant negative associations were found between PM2.5 and feed intake, weight gain, body weight, and water intake efficiency in both grain-finished and grass-finished beef steers. For grass-finished steers, PM2.5 had significantly negative effects on feed intake ($P < 0.001$) PubMed Central
- NO_2, SO_2, CO, PM2.5 and PM10 all had significant linear effects on cattle feed intake and body weight over two years of study PubMed Central — confirming that combustion pollutants as a group directly suppress beef cattle performance
- PM2.5 exposure suppresses average daily gain — a direct financial loss to beef producers as animals take longer to reach slaughter weight

Reference [7]: Bautista et al. (2024). Establishing the Relationship Between Wildfire Smoke and Performance Metrics on Finished Beef Cattle in Western Rangelands. PMC10943418
https://pmc.ncbi.nlm.nih.gov/articles/PMC10943418/

Calves — Early Life PM2.5 Exposure

- PM2.5 exposure in preweaned Holstein heifer calves induced inflammatory responses, increased respiratory rate, heart rate and rectal temperature, suppressed white blood cell counts and immune function, and caused measurable metabolic disruption PubMed Central

- Cattle are particularly susceptible to pulmonary pathologies because of their respiratory anatomy, which may make them prone to morbidities and mortalities related to airborne particulates PubMed Central
- Calves born to cows exposed to wildfire smoke PM2.5 during mid-gestation showed altered postnatal health and growth — evidence that pollution harm carries forward across generations (Skibiel et al., 2023 — Journal of Animal Science)

There are very many other significant impacts on our local Biodiversity, our property prices, visual and noise disturbance, but I obviously have grave concerns on the air pollution and its effects on human health, particularly on the very young and the elderly in our community. This is not acceptable to our rural quality of life and I strongly object to this Power Plant being built in Cashla.

Yours Sincerely,

Joe Healy